SONY

3-295-886-**13** (1)

Internal Multi-Card Reader/Writer

Operating Instructions

Before operating the unit, please read this document thoroughly, and retain it for future reference.

This product and manual are intended for persons who have expert knowledge of personal computers (PCs). Read your PC and motherboard manuals carefully before connecting the product to your PC. If you have any questions, contact your Sony representative.

MEMORY STICK ™

MRW620-U1

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Printed in China

http://www.sony.net/

Owner's Record

The model and serial numbers are located on the bottom of the reader/writer. Record the serial number in the space provided below. Refer to these numbers whenever you call upon your Sony representative regarding this product.

Model No. MRW620-U1
Serial No. _____

WARNING

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.
To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

Caution

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

Note

If you have any questions about this product, you may call the telephone number listed in "Technical Support." The telephone number below is not for customer service but only for official purposes.

Declaration of Conformity

Trade Name:	SONY
Model No.:	MRW620
Responsible Party:	Sony Electronics Inc.
Address:	16530 Via Esprillo, San Diego, CA 92127 U.S.A.
Telephone No.:	858-942-2230

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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About this Document

This document is intended for customers who specialize in the assembly of build-to-order and other PCs. End users should observe the following items when using this product and manual.

- Read your PC and motherboard manuals thoroughly.
- When connecting this Reader/Writer's USB cable to your motherboard, first read the motherboard manual to learn the position and pin assignment of the USB header.
  Inserting the USB cable of this Reader/Writer into other terminals, into a USB header with a different pin assignment on the motherboard, or inserting it incorrectly may cause serious damage not only to the Reader/Writer but also to the PC and other connected devices.

Overview

The MRW620-U1 (hereafter referred to as the "reader/writer") has the following features:

☐ Quick and simple data transfer - easily transfer images from camera to PC
☐ Compatible with "Memory Stick," "Memory Stick PRO," "Memory Stick Duo," CompactFlash, Microdrive, xD-Picture Card, SmartMedia, MultiMediaCard, SD Memory Card
☐ Changeable front panel: Customize your own PC
☐ Quick and easy installation

System Requirements

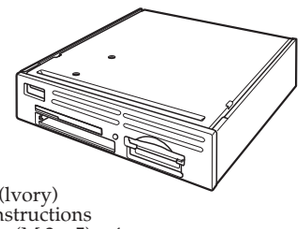
The reader/writer requires the following minimum system configuration:

- OS
  – Windows®7
  – Windows Vista®
  – Windows® XP Home or Professional
  – Windows® 2000 Professional (Service Pack 4 or later)
  – Windows® Me
- Motherboard Interface
  – USB header

Package Contents

When you unpack the box, make sure that it contains all the accessories listed below.
If anything is missing or damaged, contact your retailer.

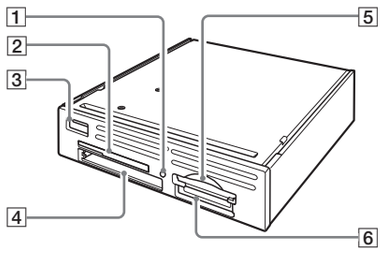
- MRW620-U1 Internal Multi-Card Reader/Writer



- Front Panel (Ivory)
- Operating Instructions
- Mount Screw (M 3 x 5) x 4
- Warranty Card

Parts and Functions

Front



1 Access Indicator
The indicator blinks when the reader/writer accesses data on a memory card.

2 SmartMedia / xD-Picture Card Slot
Insert either a SmartMedia memory card or xD-Picture Card here.

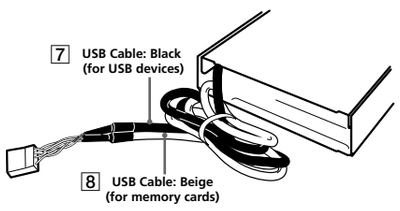
3 USB Port
Insert a USB device here.

4 CompactFlash / Microdrive Slot
Insert either a CompactFlash or Microdrive memory card here. Remove all other memory cards before using a Microdrive, because of its large power consumption.

5 MultiMediaCard / SD Memory Card Slot
Insert either a MultiMediaCard or an SD Memory Card here. When inserting a miniSD Card, use an adaptor (not supplied).

6 "Memory Stick" Slot
Insert a "Memory Stick" media here.
When inserting a "Memory Stick Duo" (without MagicGate), "MagicGate Memory Stick Duo," "Memory Stick Duo" (with MagicGate), "Memory Stick PRO Duo," "Memory Stick PRO-HG Duo," or "Memory Stick Micro" ("M2"), use an adaptor (not supplied).

Rear

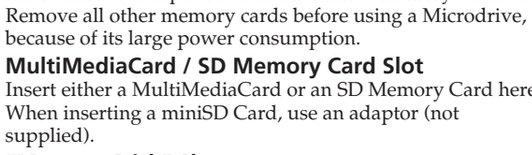


7 USB Cable (Black)
Connected to the USB header on your motherboard. For the detail, see "Installing the Reader/Writer."

8 USB Cable (Beige)
Connected to the USB header on your motherboard. For the detail, see "Installing the Reader/Writer."

Pin Assignments

Signal	PIN No.	
VCC	2	1
–DATA	4	3
+DATA	6	5
Ground	8	7
Shield		
(Non Connection)	10	



Replacing the Front Panel

Front panel in alternate colors (ivory) is included for use with different computer case color. If you want, replace the standard black front panel with one of the replacements, as follows.

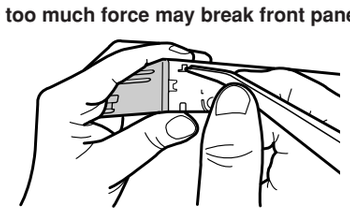
1 Hold the reader/writer face front and gently remove the panel.

How to release Front Panel hook from the hooking hole

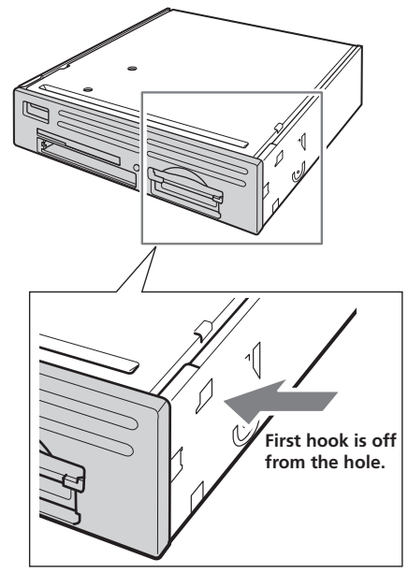
Insert sharp object such as tweezer into the gap and push gently on the hook to release the front panel

CAUTION

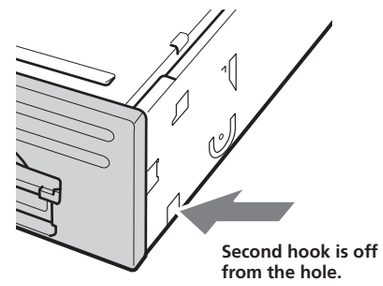
Apply too much force may break front panel hook.



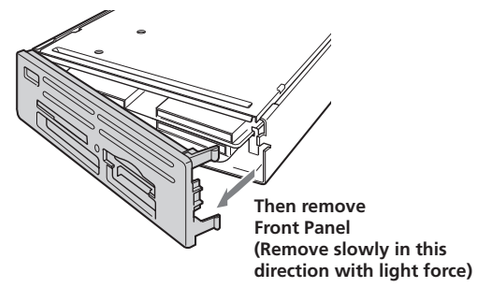
a) Push front panel first hook gently to release it from the hole.



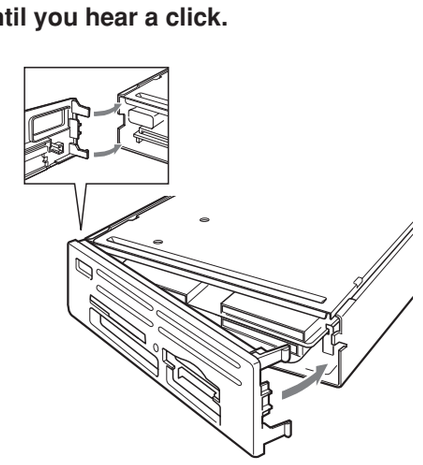
b) Push front panel second hook gently to release it from the hole.



c) Pull out the right side of the front panel as illustrated, then remove the panel.



2 Install the new front panel (left side first, as illustrated), and then push the right side until you hear a click.



Installing the Reader/Writer

CAUTION

- Read your PC and motherboard manuals thoroughly.
- Before installing the reader/writer in your computer, be sure to turn off the power and remove the AC power cord from the outlet. (Recent computers remain internally live even after Windows is shut down.)

WARNING

When connecting the reader/writer's USB cable to your motherboard, first read the motherboard manual to learn the position and pin assignment of USB header. Installing the USB cable to this reader/writer into other terminals such as IEEE1394 header, into a USB header with a different pin assignment on the motherboard, or inserting it incorrectly may cause serious damage not only to the reader/writer but also to the computer and other connected devices, in the worst case it makes fire or smoke.

To Install the Reader/Writer

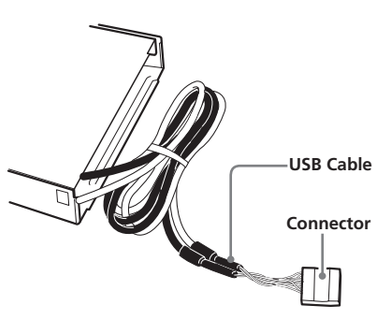
1 Unplug your computer from the AC power outlet.

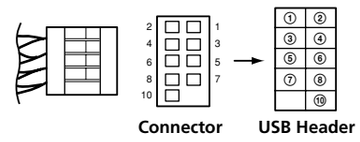
2 Follow your computer and motherboard manual to prepare a drive bay for this reader/writer.

3 Insert the reader/writer into the drive bay of your computer.

4 Secure the reader/writer with four screws.

5 Connect the USB cable to the USB header on the motherboard.
Make sure it is connected in the correct directions.





6 Reinstall the cover on your computer.

7 Plug your computer to the AC power outlet.

8 Start your computer.
The reader/writer is automatically detected. You do not need to install any device drivers.

Notes

- On some computers, a message may appear asking you to insert the operating system disc. When this happens, follow the computer's instructions.
- On some computers, the "HI-SPEED USB Device Plugged into non-HI-SPEED USB Hub" message may appear, indicating that a hi-speed USB device has been connected to a USB port which does not support hi-speed USB. If your computer has multiple USB headers, try connecting to a different header. Otherwise, close the message and continue using the reader/writer with the current header.

HI-SPEED USB Device Plugged into non-HI-SPEED USB Hub
A HI-SPEED USB device is plugged into a non-HI-SPEED USB hub.
For assistance in solving this problem, click this message.
EN
10:03 AM

HI-SPEED USB Device Attached To non-HI-SPEED Hub
The USB Mass Storage Device is a HI-SPEED USB device and will function at reduced speed when plugged into a non-HI-SPEED port.
There are no HI-SPEED USB host controllers installed on this computer.
USB Root Hub (2 ports)
USB Mass Storage Device
Unused Port
Recommendation
The USB Mass Storage Device will function at reduced speed. You must add a HI-SPEED USB host controller to this computer to obtain maximum performance.
Close

Specifications

USB transfer rate
Full-speed (12 Mbps)
Hi-speed (480 Mbps)
This hi-speed transfer rate is theoretical value for the USB standard. Actual performance is dependent on the device.

Power requirements
4.75 V to 5.25 V DC

Current consumption
Max. 500 mA *1

Access indicator
Blinks on access

Operating environment
Temperature: 5 °C to 40 °C (41 °F to 104 °F)
Humidity: 30% to 80% RH

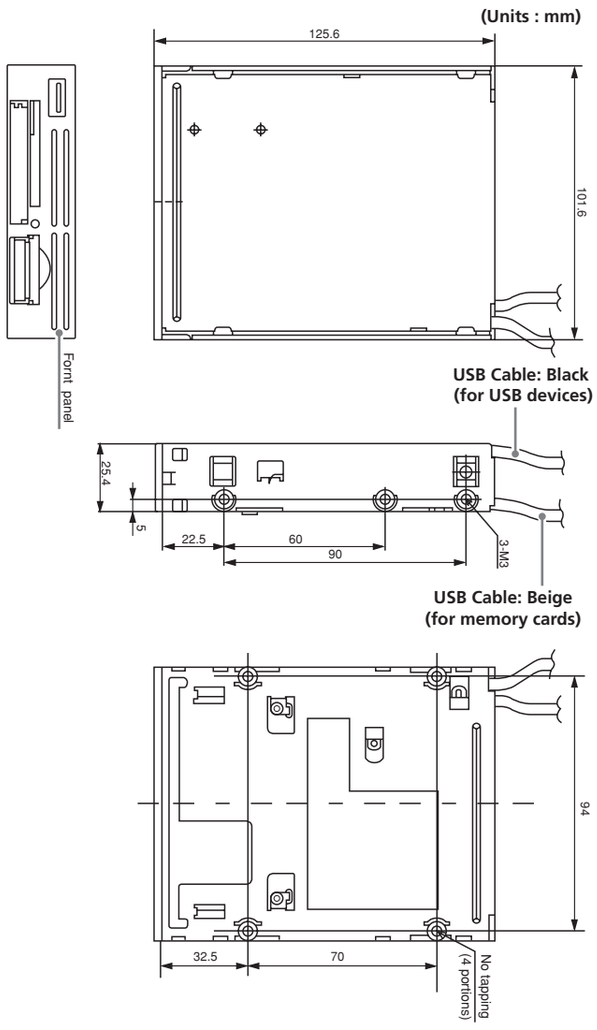
Storage environment
Temperature: -30 °C to + 60 °C (-22 °F to +140 °F)
Humidity: No condensation

Mass
Approx. 200 g (7.1 oz.)

*1 Except when using Microdrive

Dimensions

(Units : mm)



Supported Media

The reader/writer supports the following media:

"Memory Stick" media

- "Memory Stick" (without MagicGate) *1
- "MagicGate Memory Stick" *1*2
- "Memory Stick" (with MagicGate) *1*2*3
- "Memory Stick Duo" (without MagicGate) *1*5
- "MagicGate Memory Stick Duo" *1*2*5
- "Memory Stick Duo" (with MagicGate) *1*2*3*5
- "Memory Stick PRO" *2*3
- "Memory Stick PRO Duo" *2*3*5
- "Memory Stick PRO-HG Duo" *2*3*5
- "Memory Stick Micro" ("M2") *2*3*4*5

*1 "MagicGate" is the general name of a copyright protection technology developed by Sony.
*2 Recording or playback of MagicGate data that uses MagicGate technology is not supported.
*3 4-bit parallel data transfer is supported. It, however, varies depending on each medium how long it takes to read/write data.
*4 "M2" is an abbreviation of "Memory Stick Micro." in this document, hereinafter, the abbreviation "M2," is used.
*5 With adaptor (not supplied) only.

SD memory cards

- SD/SDHC Memory Card *6
- miniSD™ card *6*7

*6 Recording or playback of data that uses SD technology is not supported.
*7 With adaptor (not supplied) only.

Other memory cards

- MultiMediaCard *8
- RS-MMC *8
- CompactFlash®
- Microdrive® *9
- SmartMedia™
- xD-Picture Card™

*8 MMCplus and MMCmobile are supported, but parallel data transfer is not supported.
*9 The Microdrive requires more power than other memory cards. When using a Microdrive, remove other memory cards; otherwise an error may occur due to a shortage of power.

Notes

- Not all memory cards are guaranteed to work. Operation is not assured if non-supported memory cards are used.
- The capacity of a file to be recorded/played back is smaller than 4 GB per file according to the specifications of the file system incorporated in "Memory Stick."
- Although operation check of this product has been performed with up to 8 GB "Memory Stick," please note that the operation is not guaranteed for every type of "Memory Stick."
- In this manual, all types of media listed in "Supported Media" are generically called memory cards.
- I/O cards that are not memory cards, such as GPS cards, are not supported.
- MultiMediaCards and SD Memory Cards use the same slot, so you cannot use them at the same time.
- The "Memory Stick" media all use the same slot, so you cannot use them at the same time.
- Only DOS format is supported. Memory cards in other formats are not supported.

About Memory Stick

What is "Memory Stick"?

"Memory Stick" is a compact-size IC recording medium with a large capacity. It has been designed not only for exchanging/sharing digital data among "Memory Stick" compliant products, but also for serving as an insertable/removable external storage medium that can save data.

Notes on "Memory Stick"

On formatting (initialization)

- If you format a medium in which data has been already written, all the data and software will be erased. Please be cautious not to mistakenly erase any important data.
- Please make sure to format (initialize) a medium with the formatter of a "Memory Stick" compliant product. If it is initialized with Windows Explorer, a FORMAT ERROR occurs, and data on the medium can no longer be used by this product.

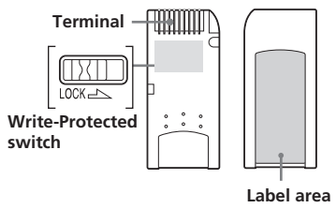
About the size of "Memory Stick"

- When you use "Memory Stick Duo" on the product, please make sure to attach the media to a Memory Stick Duo Adaptor before inserting into the product.
  If you attempt to insert "Memory Stick Duo" into this product without attaching it to an adaptor, there is a possibility that the "Memory Stick Duo" cannot be pulled out of the product.
- Do not insert multiple "Memory Sticks" at the same time. It might cause damage to the product.
- When you use "Memory Stick Duo" attached to a Memory Stick Duo Adaptor, please make sure to attach it in the right direction.
- "Memory Stick Duo" and "Memory Stick Micro" should be kept away from small children to prevent them from accidentally swallowing it.
- When you use "Memory Stick Micro" on this product, please make sure to attach the media into M2 adaptor of standard size.
  If you attempt to insert "Memory Stick Micro" without attaching to M2 adaptor, there is a possibility that it cannot be pulled out.
  "Memory Stick Micro" may not operate properly when the media is put into Duo-size M2 Adaptor and inserted all together into Memory Stick Duo adaptor. Please use an M2 adaptor of standard size for proper operations.

Usage Notes

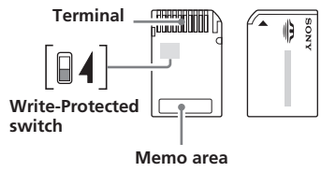
"Memory Stick" Media

Notes on using "Memory Stick" media



- Do not remove "Memory Stick" while data is being read or written.
- Data may be damaged if:
  – You remove "Memory Stick" or disconnect the USB cable while data is being read or written.
  – You use "Memory Stick" in a place where it is susceptible to static electricity or electric noise.
- You can keep backup copies of important data on a "Memory Stick."
- Avoid touching the metal terminals on the "Memory Stick" to prevent damage from static discharge.
- Do not subject the "Memory Stick" to excessive stress or shock.
- Do not disassemble or modify "Memory Stick."
- Keep "Memory Stick" and other media away from water, excessive heat and humidity, and from corrosive elements.
- Do not use or keep "Memory Stick" under an unfavorable condition as below:
  – Extremely hot place (such as in a parked car with windows closed in summer, a spot under direct sunlight, or near an electrical appliance that radiates heat).
  – Humid place.
  – Place near corrosive substances.
- If you set Write-Protected switch "LOCK," data cannot be recorded, edited, or erased.
- Do not stick anything other than the supplied labels on the label area of "Memory Stick."
- Stick a label precisely within the label area. Make sure that the label does not go beyond the area.
- Carry and keep "Memory Stick" in the supplied case.

Notes on using "Memory Stick Duo/Memory Stick PRO Duo"

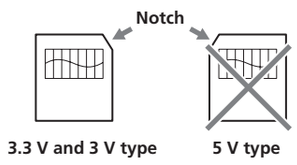


- When you use "Memory Stick Duo/Memory Stick PRO Duo" without Write-Protected switch, be careful not to edit or erase important data by mistake.
- When you use "Memory Stick Duo/Memory Stick PRO Duo" with Write-Protected switch, data cannot be recorded, edited, or erased by "LOCK" the switch.
- Use an object with a sharp tip to move the Write-Protected switch.
- Do not press on the memo area strongly when writing.
- Carry and keep "Memory Stick" in the supplied case.

SmartMedia Cards

Supported SmartMedia cards

The reader/writer supports 3.3-volt and 3-volt SmartMedia cards, but not the older 5-volt type.



Note

Do not insert a 5-volt SmartMedia card into the reader/writer forcibly.

SmartMedia card handling

If the gold contact area of a SmartMedia card is dirty, a read error may occur. Keep the contact area clean. Otherwise do not touch the gold contact area. Do not twist or warp the card. Protect the card from static electricity.

SmartMedia card with ID

The reader/writer does not support the ID information on SmartMedia cards, but allows any SmartMedia card with an ID to be used as regular media.

Other Points to Note

Media formatting

Do not format (initialize) memory cards with a computer. If you format a memory card with a computer, devices such as digital cameras may not be able to use it due to differences in format type (FAT size, cluster size, hard disk type, or super floppy disk type). If you use a digital camera, format memory cards with your camera, instead.

Restrictions on DOS mode

In Windows, the reader/ writer does not operate in DOS mode. To use the reader/writer, start up Windows.

Standby

The reader/writer supports standby functions based on the PC2000 standard, which may not cover the standby function of all computers. Disable the standby function of your computer if it causes any problems. While the computer is in standby, do not insert or remove any media.

Antivirus software

If you have memory-resident antivirus software on your computer, the computer may hang or become unusually slow. In this case, set your antivirus software so it does not scan the media in the reader/writer.

Do not attempt to dismantle, repair, or alter the reader/writer yourself

Do not, under any circumstances, attempt to dismantle, repair, or alter the reader/writer yourself. You may not only permanently damage the reader/writer and/or your computer, but may also cause fire or personal injury through electrical shock.

Operating and storage environments

- Do not place the reader/writer close to heat sources or in direct sunlight; in dusty, dirty, or humid locations; under precipitation such as rain; or leave it in a vehicle with the windows closed.
- If the reader/writer interferes with the reception of radio or television signals, move the reader/writer away from the radio or television.
- When using the reader/writer, do not wrap it in cloth, sheets, or covers as this may cause a malfunction or fire.

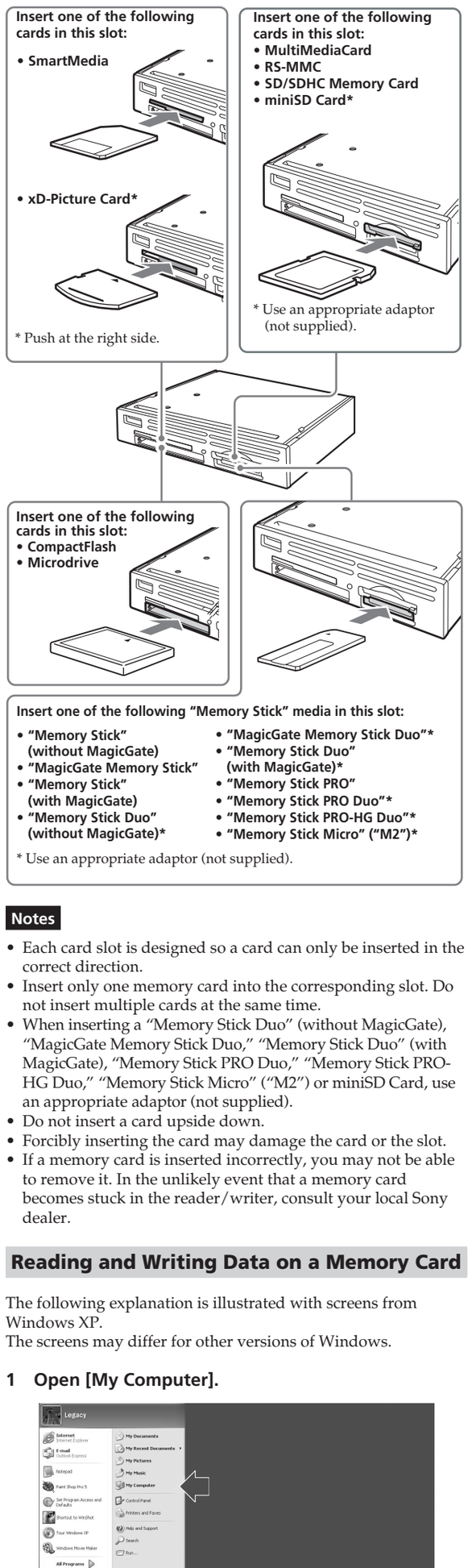
Using the Reader/Writer

CAUTION

Do not touch and remove a memory card from the reader/writer while the access indicator is blinking. The data stored on the memory card may be damaged.

Inserting a Memory Card

Insert a memory card into the corresponding slot on the reader/writer.
When inserting a card, push it in as far as it can go.


Insert one of the following cards in this slot:
• SmartMedia
• xD-Picture Card*
* Push at the right side.
Insert one of the following cards in this slot:
• MultiMediaCard
• RS-MMC
• SD/SDHC Memory Card
• miniSD Card*
* Use an appropriate adaptor (not supplied).
Insert one of the following cards in this slot:
• CompactFlash
• Microdrive
Insert one of the following "Memory Stick" media in this slot:
• "Memory Stick" (without MagicGate)
• "MagicGate Memory Stick"
• "Memory Stick" (with MagicGate)
• "Memory Stick Duo" (without MagicGate)*
• "MagicGate Memory Stick Duo"*
• "Memory Stick Duo" (with MagicGate)*
• "Memory Stick PRO"
• "Memory Stick PRO Duo"*
• "Memory Stick PRO-HG Duo"*
• "Memory Stick Micro" ("M2")*
* Use an appropriate adaptor (not supplied).

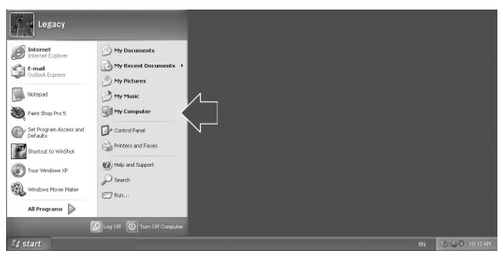
Notes

- Each card slot is designed so a card can only be inserted in the correct direction.
- Insert only one memory card into the corresponding slot. Do not insert multiple cards at the same time.
- When inserting a "Memory Stick Duo" (without MagicGate), "MagicGate Memory Stick Duo," "Memory Stick Duo" (with MagicGate), "Memory Stick PRO Duo," "Memory Stick PRO-HG Duo," "Memory Stick Micro" ("M2") or miniSD Card, use an appropriate adaptor (not supplied).
- Do not insert a card upside down.
- Forcibly inserting the card may damage the card or the slot.
- If a memory card is inserted incorrectly, you may not be able to remove it. In the unlikely event that a memory card becomes stuck in the reader/writer, consult your local Sony dealer.

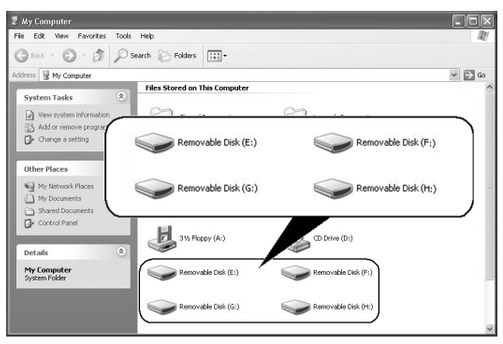
Reading and Writing Data on a Memory Card

The following explanation is illustrated with screens from Windows XP.
The screens may differ for other versions of Windows.

1 Open [My Computer].



2 Make sure the removable disk icons appear in [My Computer].



Drive letters for the removable disk icons are assigned in alphabetical order to the CompactFlash / Microdrive Slot, SmartMedia / xD-Picture Card Slot, MultiMediaCard / SD Memory Card Slot and "Memory Stick" Slot.
For example, if the computer has an A:, C:, and D: drive before connecting the reader/writer, the drive letters will be assigned as follows when the reader/writer is connected:

Computer drive name	Corresponding memory card
Removable Disk (E:)	CompactFlash MicroDrive
Removable Disk (F:)	SmartMedia xD-Picture Card
Removable Disk (G:)	MultiMediaCard SD Memory Card
Removable Disk (H:)	"Memory Stick" media

3 Insert a memory card into the corresponding slot.
When a volume label has been assigned to the memory card, the volume label will be displayed together with the removable disk icon.

4 Use the removable disk icon to read or write data on the memory card.
If the following message appears, the memory card has not been recognized correctly, even though the access indicator lights up. Remove the card and insert it again.

Notes

- Use the removable disk icon for the memory card you are using.
- It may take a while for the removable disk icons to appear.
- If the removable disk icons do not appear, uninstall the reader/writer from your computer, and then install again.
- Depending on your operating system and the type of memory card you are using, the reader/writer drives may be recognized as "Local Disks" instead of "Removable Disks," but this will not affect their operation.

Removing a Memory Card

Note

Be sure to follow the steps described below.
Do not remove a memory card without following this procedure, as it may cause damage to the data stored on the memory card.

1 Make sure the access indicator is not blinking.
2 Open [My Computer].
3 Right-click the removable disk icon, and select [Eject].
4 Pull the memory card straight out.

Troubleshooting

Before consulting your Sony representative, verify the following. If the problem still persists, consult your local Sony dealer.

Problem	Solution
The computer does not detect the reader/writer.	➡ Your computer and the reader/writer may not be properly connected. Disconnect the reader/writer from the computer and reconnect it.
The removable disk icon does not appear.	➡ Your computer and the reader/writer may not be properly connected. See "Installing the Reader/Writer" and make sure the connection is correct. ➡ A USB device other than the reader/writer is connected to the USB port on the computer.
The memory card cannot be accessed with Windows Explorer or My Computer.	➡ No memory card is inserted. Insert a memory card into the proper slot.
The computer does not recognize the memory card.	➡ The memory card is not fully inserted. Insert the card completely. ➡ The memory card is not inserted straight. Remove the card and insert it again.
The computer cannot read / write the memory card	➡ The memory card is not fully inserted. Insert the card completely. ➡ The memory card is not inserted straight. Remove the card and insert it again.
The read/write speed is slow.	➡ The speed may vary depending on the environment or the memory card being used. This is not a malfunction.
With Windows 2000 or Windows Me, the drive icon of the unit does not appear in the "My Computer" window.	➡ Make sure that the "USB Mass Storage Device" is not displayed as in the "Device Manager." If it is, delete it, disconnect the USB cable from your computer, and then reconnect it.

Technical Support

Local technical support service is only available in the following sales regions.

☐For customers in the USA (Sony Electronics Inc.)
Monday to Saturday,
8:00 a.m. - 8:00 p.m. CT
- Toll free: 1-800-588-3847
- Free telephone support is offered for 90 days after your first call.
  USA technical support only: Web- based technical support is free and available 24 hours a day, 7 days a week.
- Web site:
  http://sony.storagesupport.com/

Warranty Card

- A warranty card should be provided with this product at the place of purchase.
- Please read the warranty card, fill in the specified information, and retain it for future reference.
- The warranty period is one year from the date of purchase.

Caution

The warranty and technical support service are valid only in the countries or sales regions specified on the warranty card.